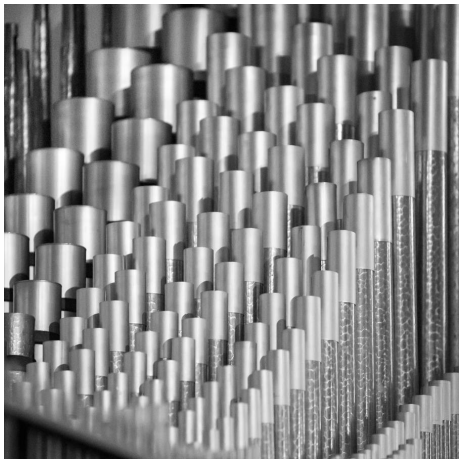
ALLOY STEEL Advanced Materials. Engineered for Performance.

A335 P91 Seamless Pipe



Alloy Steel | ASTM / ASME: A335 / SA335 Grade P91 | EN: X10CrMoVNb9-1 / 1.4903 | Fittings / flanges: A234 WP91 / A182 F91

Modified 9Cr-1Mo-V (P91) seamless pipe for supercritical steam. The creep strength allows a much thinner wall than P22 at 580 - 600 C, cutting weight and thermal fatigue on main steam and hot reheat lines. Hardness after PWHT is reported on every length.

Stock status: Mill indent - Typical lead time: 4 - 8 weeks mill indent

Key features

- Seamless, normalised and tempered to ASME SA335
- Creep rupture strength for long term elevated temperature service
- Matched fittings (A234 WP) and flanges (A182 F) available from one source
- Hardness, hydro and ultrasonic test reports with every heat

Available forms & sizes

Form	Size range
Seamless Pipes & Tubes	1/2" - 24" NB, SCH 40 - SCH 160 / XXS
Fittings	1/2" - 24" butt weld fittings, WP11 / WP22 / WP91
Flanges	1/2" - 24", 150# - 2500#, F11 / F12 / F22 / F5 / F9 / F91

Chemical composition (%)

Element	Min	Max
C	0.08	0.12
Cr	8.00	9.50
Mo	0.85	1.05
V	0.18	0.25
Nb	0.06	0.10
N	0.030	0.070

Mechanical properties

Property	Value	Unit
Yield Strength (0.2%)	415 min	MPa

Property	Value	Unit
Tensile Strength	585 min	MPa
Elongation	20 min (longitudinal)	%
Condition	Normalised and tempered, seamless	-

Physical properties

Property	Value	Unit
Density	7.85	g/cm3
Max Service Temperature	550 - 650 depending on grade	C

Standards

ASTM A335 / ASME SA335, ASTM A234 (fittings), ASTM A182 (flanges), EN 10216-2, EN 10204 3.1 / 3.2

Equivalent grades

X10CrMoVNb9-1, 1.4903, WP91, F91

Industries served

Power Generation, Petrochemical, Refining, Oil & Gas, Fertiliser

Typical applications

- Main steam and hot reheat piping
- Superheater and reheater headers
- Refinery hot wall piping and heater coils
- High temperature process lines

Live datasheet